

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:**That the "A" Class divisions, fire integrity**with type designation(s)
Class A-60 steel bulkhead, restricted application

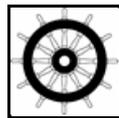
Issued to

SAINT-GOBAIN ISOVER G+H AG
Ludwigshafen am Rhein, Rheinland-Pfalz, Germany

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2018/773,****item No. MED/3.11a. SOLAS 74 as amended, Regulation II-2/3.2 & II-2/9, IMO 2010 FTP Code, IMO MSC/Circ.1120 and IMO MSC.1/Circ.1434**

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-07-03.**Issued at **Hamburg** on **2019-07-04**DNV GL local station:
Augsburgfor **DNV GL SE**Approval Engineer:
Pavel GolyshvNotified Body
No.: **0098****Gerhard Aulbert**
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004.

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Job Id: **344.1-009221-1**
Certificate No: **MEDB000057X**

Product description

"Class A-60 steel bulkhead, restricted application"

Steel bulkheads with different insulation constructions as listed in enclosed Appendix.

(For latest revision of the appendix, see <https://approvalfinder.dnvgl.com>).

Application/Limitation

Approved for use as vertical fire retarding division of class A-60 with "restricted application".

For further details regarding Applications/Limitations see Appendix.

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity. This requirement may also be applicable for surface materials used, if required by relevant rules and regulations.

Each product is to be supplied with its manual for installation and maintenance.

Type Examination documentation

Test reports nos. PGA10457 dated 24th of July 2014 and PGA11267A dated 27th of August 2018 both issued by Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.

Assessment reports nos. (all issued by Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark):

PHA10498a, Revision no.: 1 (use of mats instead of slabs: as applicable, considering range of included densities and thicknesses) dated 2nd of November 2018,

PHA10498b (alternative insulation on stiffeners) dated 15th of January 2015,

PHA10498c (minimum thickness and density) dated 13th of October 2014,

PHA10498d (position of joints) dated 16th of December 2014,

PHA10498e (mounting methods for insulation on stiffeners) dated 24th of November 2014,

PHA10498f (washers diameters 30mm) dated 15th of July 2014 and

PHA10498g (pin pattern) dated 28th of November 2014.

PHA11121A dated 8th of October 2018. With assessment no. PHA11121A the validity of technical

assessments nos. PHA10498c, PHA10498d, PHA10498e, PHA10498f and PHA10498g is prolonged and extended to cover test report no. PGA11267A.

Drawing no. AK2304 (4 pages) dated 11th of December 2014 all from SAINT-GOBAIN ISOVER G+H AG.

Tests carried out

Tested according to IMO Resolution MSC.307(88) - 2010 FTP Code Annex 1 Part 3.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire-technical rating, the MED Mark of Conformity and USCG Approval Number if applicable (see first page).

USCG Approval Category (Module B) number

This product has been assigned a U.S. Coast Guard Module B number 164.107/EC0098 to note type approval to Module B only as it pertains to obtaining US Coast Guard approval as allowed by the

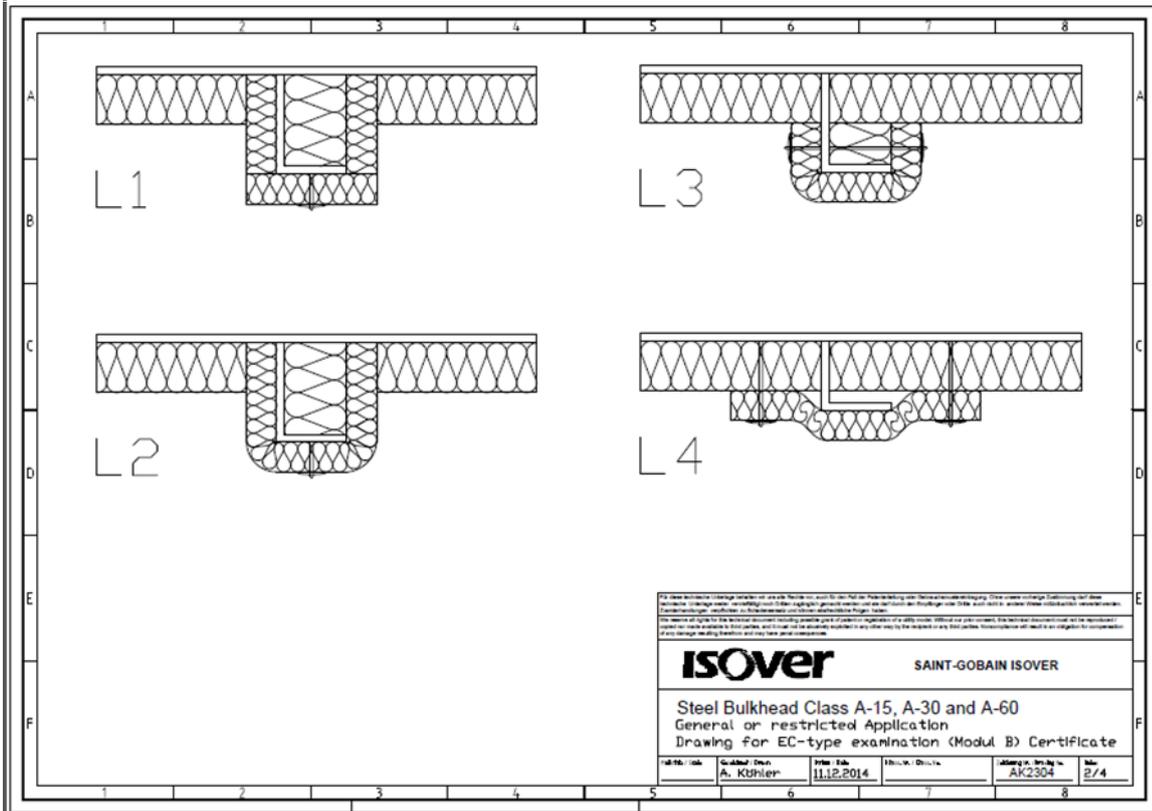
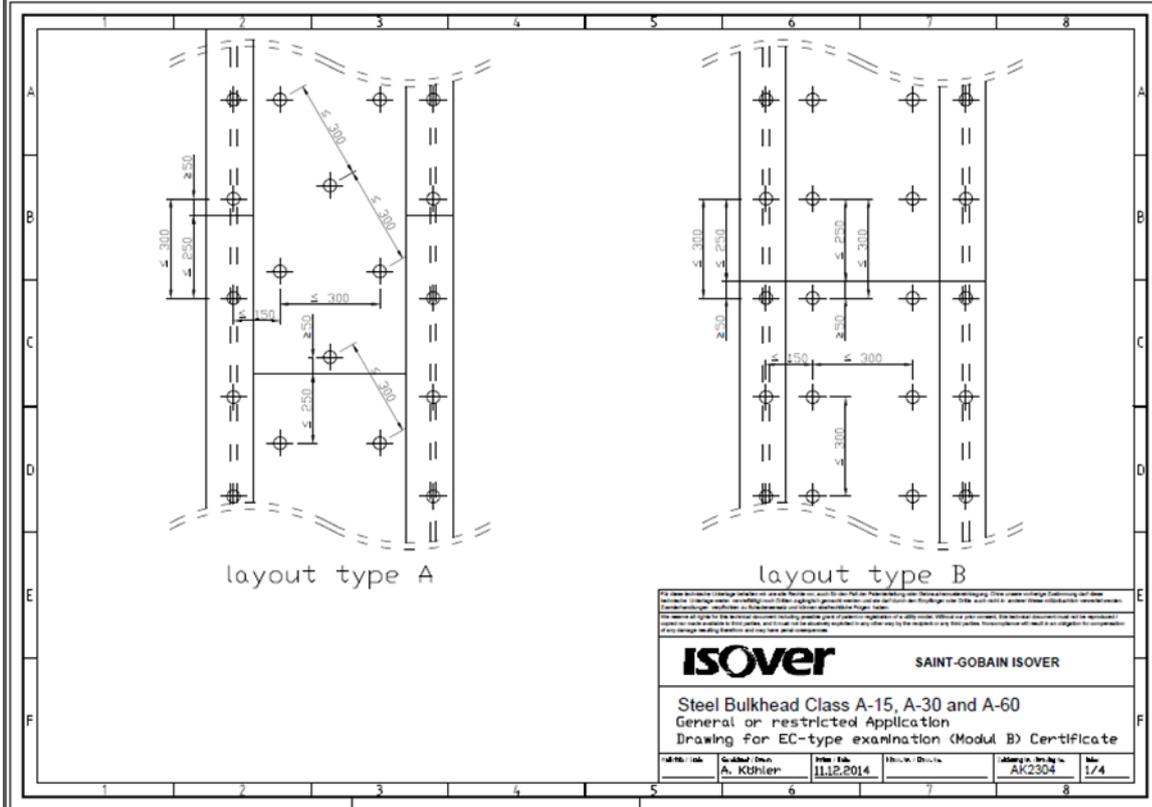
"Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed February 27th, 2004.

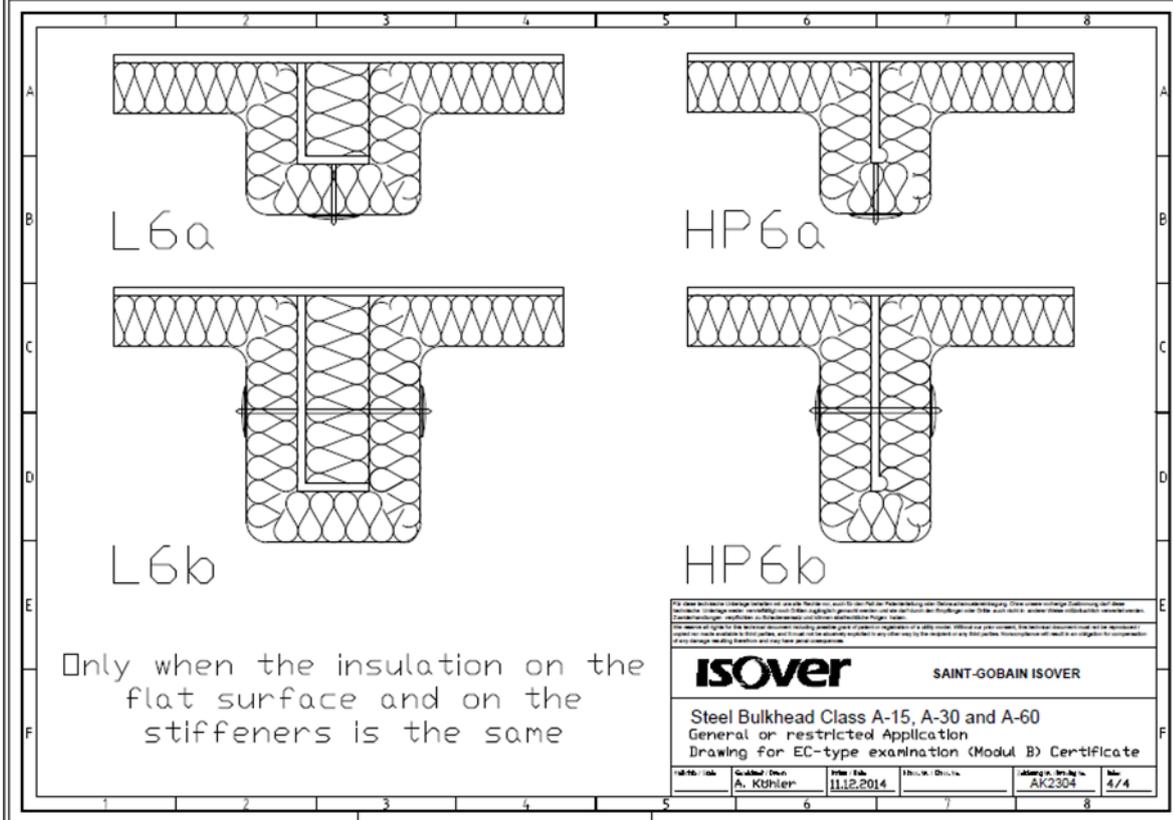
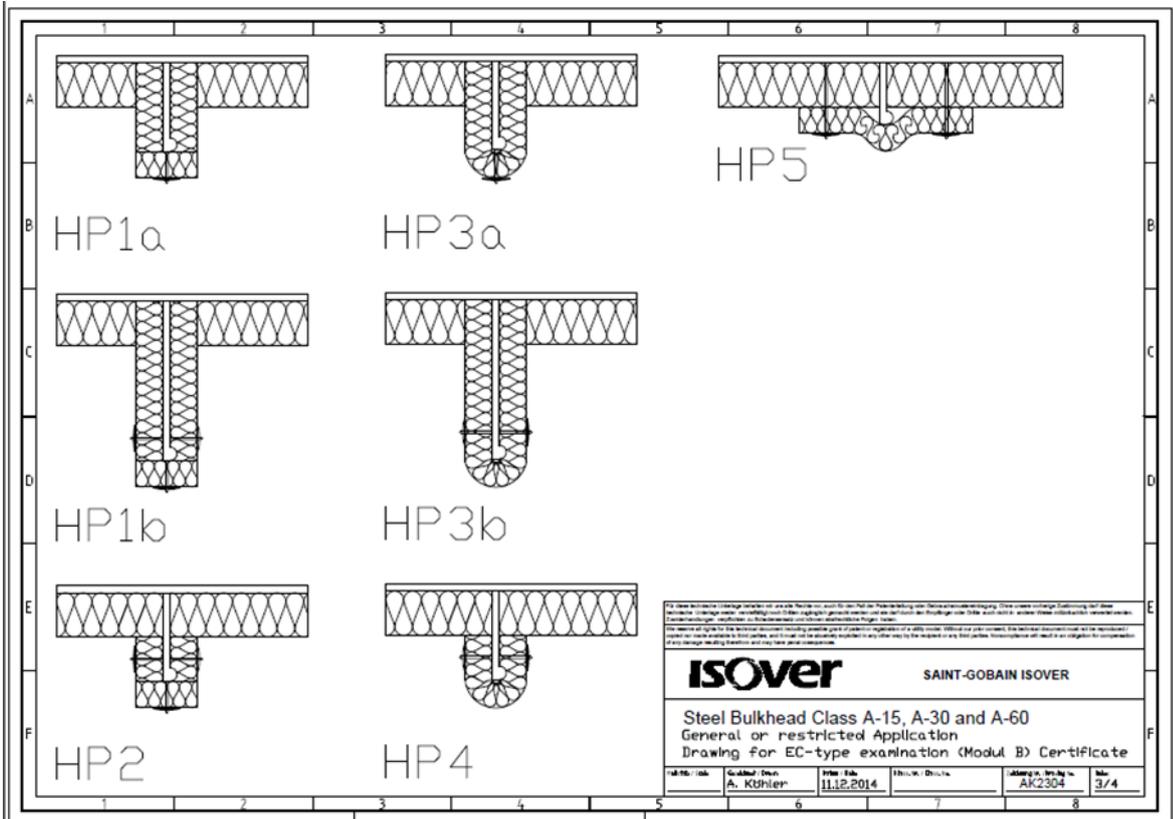
Appendix A to MEDB000057X

Alternative constructions:

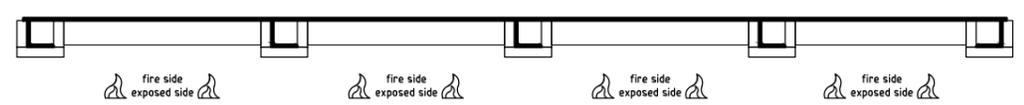
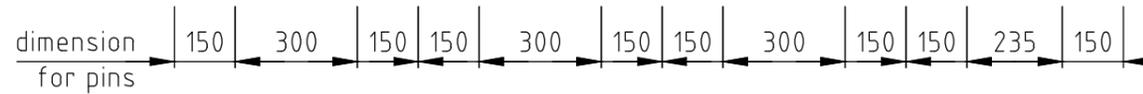
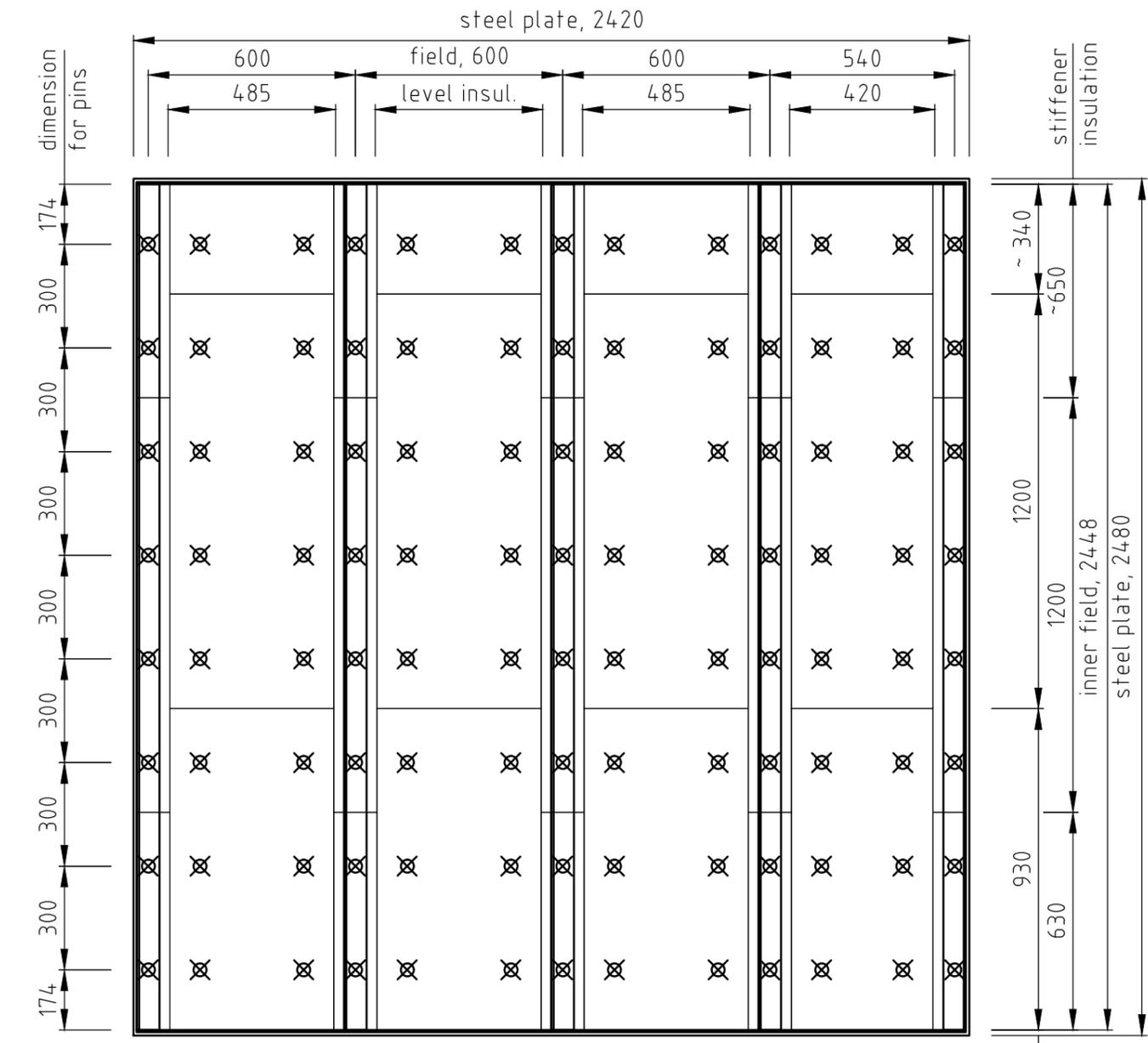
	Product Description	Application / Limitations	Type Approval Documentation
1	<p>"U SeaProtect 36/70 + 76/25" Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m³) from Saint-Gobain Isover G+H AG. Min. 25 mm U SeaProtect 76 (density 76 kg/m³) is fitted around the stiffeners. Insulation (U SeaProtect 76) is fitted inside the void of the stiffeners.</p> <p>The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p>	<p>Approved for use as a Class A-60 Bulkhead.</p> <p>Restricted application: Fire from insulated side only.</p> <p>Insulation of same type (U SeaProtect from Saint-Gobain Isover G+H AG) with density up to 86 kg/m³ may be used.</p>	<p>Test report no. PGA10457 (with included revised drawing no. AK2295).</p> <p>Assessment reports nos. PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498g (pin pattern)</p> <p>Drawing no. AK2304.</p>
2	<p>"U SeaProtect 36/70 + 36/70" Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m³) from Saint-Gobain Isover G+H AG. Min. 70 mm U SeaProtect 36 (density 36 kg/m³) is fitted around the stiffeners. Insulation (U SeaProtect 76) is fitted inside the void of the stiffeners.</p> <p>The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p>	<p>Approved for use as a Class A-60 Bulkhead.</p> <p>Restricted application: Fire from insulated side only.</p> <p>Insulation of same type (U SeaProtect from Saint-Gobain Isover G+H AG) with density up to 86 kg/m³ may be used.</p>	<p>Test report no. PGA10457 (with included revised drawing no. AK2295).</p> <p>Assessment reports nos. PHA10498b (alternative insulation on stiffeners) PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498g (pin pattern)</p> <p>Drawing no. AK2304.</p>
3	<p>"U SeaProtect 36/70 + 76/20" Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m³) from Saint-Gobain Isover G+H AG. Min. 20 mm U SeaProtect 76 (density 76 kg/m³) is fitted around the stiffeners. Insulation (U SeaProtect 76) is fitted inside the void of the stiffeners.</p> <p>The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p>	<p>Approved for use as a Class A-60 Bulkhead.</p> <p>Restricted application: Fire from insulated side only.</p> <p>Insulation of same type (U SeaProtect from Saint-Gobain Isover G+H AG) with density up to 86 kg/m³ may be used.</p>	<p>Test report PGA11267A (with included drawing no. AK 2411)</p> <p>Alternative arrangements acc. to assessment no. PHA11121A (with reference to further assessments as stated below): PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498f (washers diameters 30 mm) PHA10498g (pin pattern)</p> <p>Drawing no. AK2304.</p>

Appendix B to MEDB000057X

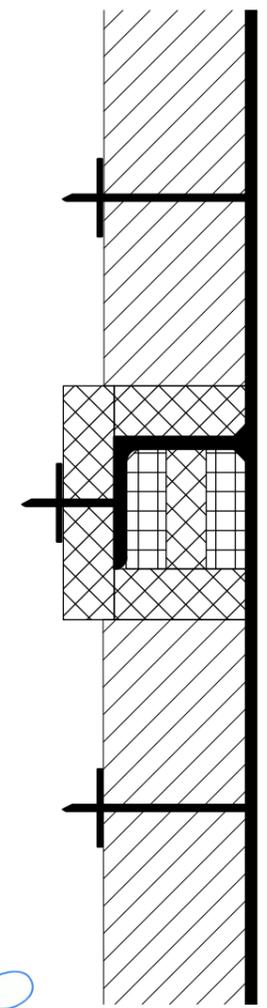




view from exposed side



exposed side
fire side
exposed side



description	specification	manufacturer
Insulation		
level	ULTIMATE U MPN 36, 70mm	Saint-Gobain Isover
stiffener	ULTIMATE U MPN 76, 25mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 90mm/50mm	Hilbig

Isover-test-number: B13SR

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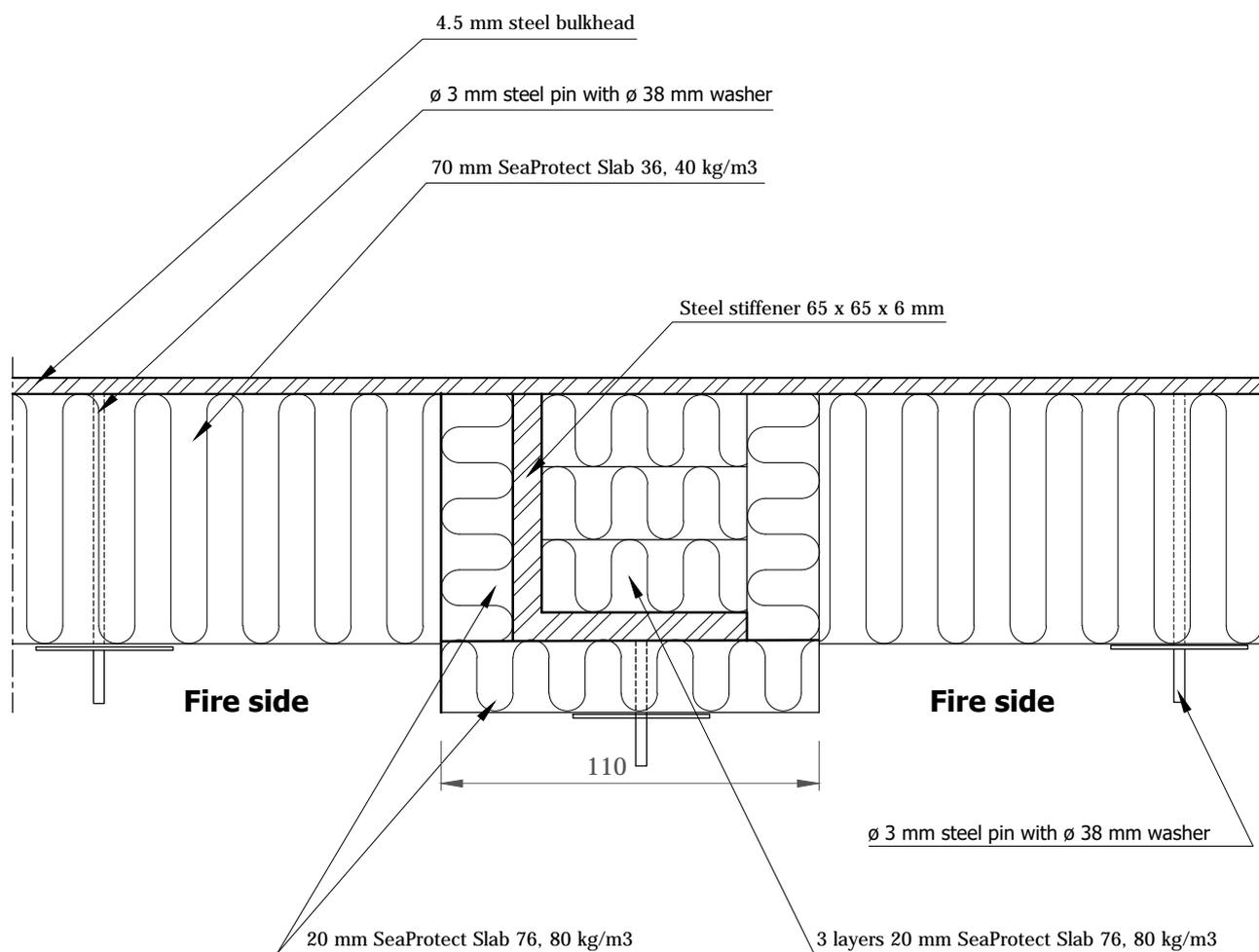


SAINT-GOBAIN ISOVER

Änderungen / Modifications		Datum /Date	
E			
D			
C			
B			
A			

Class A-60 steel bulkhead
restricted application
Isover ULTIMATE

Maßstab / Scale	Gezeichnet / Drawn	Geprüft/Checked	Datum / Date	Klass. Nr. / Class. No.	Zeichnung Nr. /Drawing No.	Index
A3	Vincent Pottier		21.11.2018	PGA10457	AK2295	1/1



All measurements are in mm

Danish Institute of Fire and Security Technology

Sponsor: Saint-Gobain ISOVER G+H AG

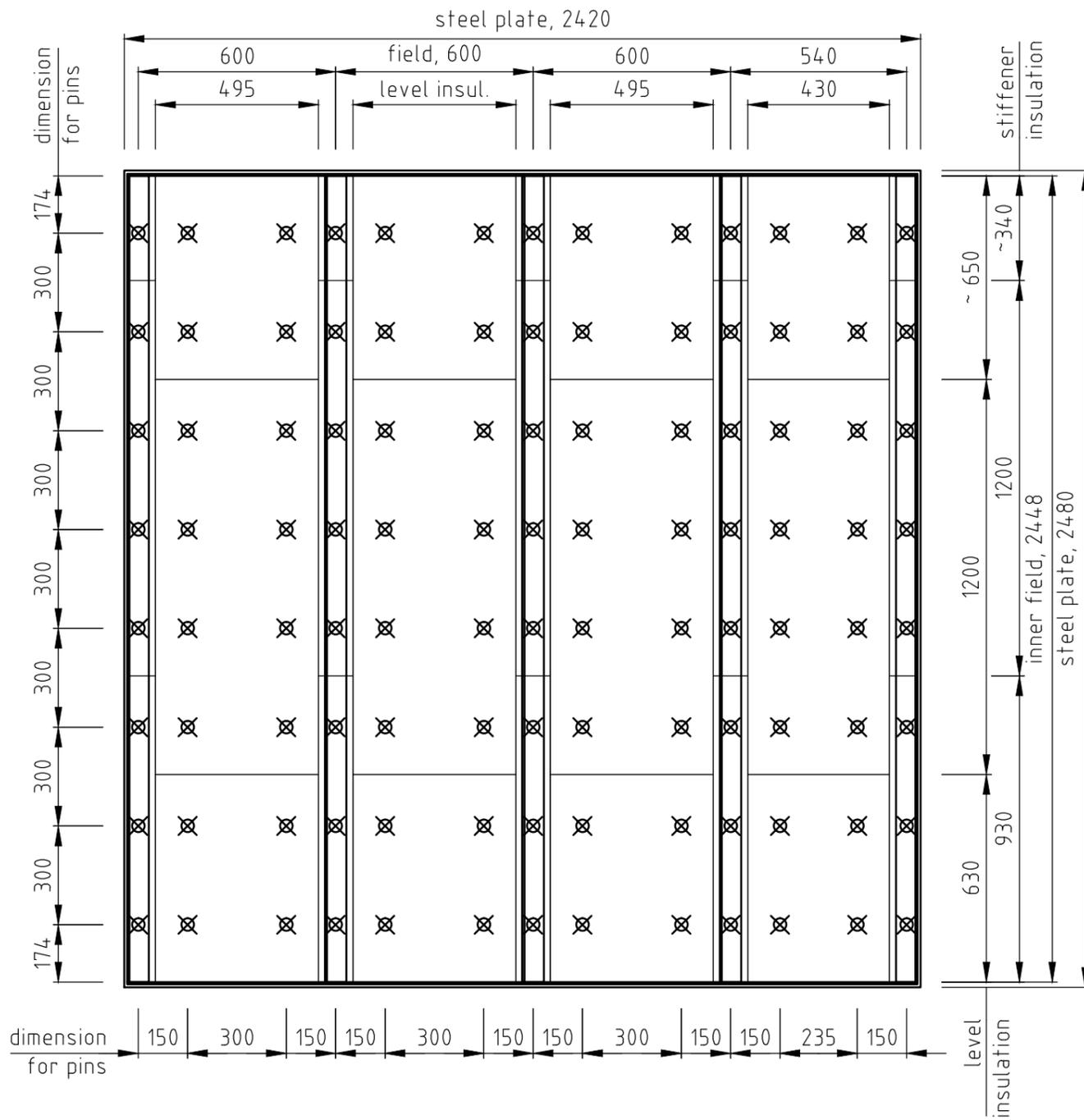
Subject: A-Class Bulkhead, details

File No.: PGA11267A

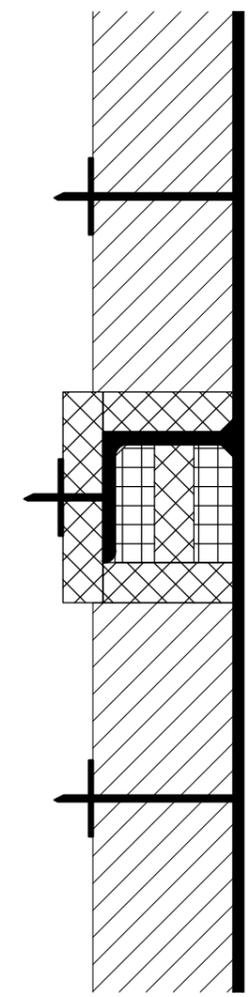
Test date: 01 -08-2018

Enclosure: 1.1

view from unexposed side



fire side
exposed side



description	specification	manufacturer
Insulation		
 level	U SeaProtect Slab 36, 70mm	Saint-Gobain Isover
 stiffener	U SeaProtect Slab 76, 20mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 90mm/50mm	Hilbig

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ISOVER

SAINT-GOBAIN ISOVER

Änderungen / Modifications		Datum /Date					
E							
D							
C							
B							
A							
Maßstab / Scale		Gezeichnet / Drawn	Geprüft /Checked	Datum / Date	Klass. Nr. / Class. No.	Zeichnung Nr. /Drawing No.	Index
A3		Vincent Pottier		09.08.2018		AK2411	1/1

Class A-60 steel bulkhead
restricted application
Isover ULTIMATE